Christopher S. Meiklejohn

christopher.meiklejohn@gmail.com
50 Elite Drive, Warwick, RI, 02889
http://www.christophermeiklejohn.com

PROFILE Functional programmer, distributed systems researcher, conference speaker, and open source contributor.

INTERESTS *Conflict-Free Replicated Data Types (CRDTs)*
Applications of CRDTs in distributed systems, specifically partitioned and replicated computation in large-scale systems.

Distributed Computing
Efficient distributed computation in mobile and desktop applications supporting offline operation that preserve the correctness properties of applications.

Education
Instruction of distributed systems topics.

PUBLICATIONS Meiklejohn, C. (2014)
Augmented Inverted Indexes to Track Causality in Eventually Consistent Data Stores
Middleware '14 Poster Session
December 8-12 2014; Bordeaux, FR

Meiklejohn, C. (2014)
Eventual Consistency and Deterministic Dataflow Programming
A Case Study of Integrating Derflow with the Riak Data Store.
LADIS '14: 8th Workshop on Large-Scale Distributed Systems and Middleware
October 23-24, 2014; Cambridge, UK

Bravo, M., Li, Z., Van Roy, P., and Meiklejohn, C. (2014)
Derflow: distributed deterministic dataflow programming for erlang
In Proceedings of the Thirteenth ACM SIGPLAN workshop on Erlang (Erlang '14)
Collocated with ICFP '14; September 5, 2014; Goteborg, Sweden

Brown, R., Cribbs, S., Meiklejohn, C., Elliott, S. (2014)
Riak DT map: a composable, convergent replicated dictionary.
In Proceedings of the First Workshop on Principles and Practice of Eventual Consistency (PaPEC '14)
Collocated with EuroSys '14; April 13, 2014; Amsterdam, NL

Meiklejohn, C. (2014)
On the composability of the Riak DT map:
Expanding from embedded to multi-key structures.
In Proceedings of the First Workshop on Principles and Practice of Eventual Consistency (PaPEC '14)
Collocated with EuroSys '14; April 13, 2014; Amsterdam, NL

Meiklejohn, C., (2013)
Riak PG: Distributed Process Groups on Dynamo-style Distributed Storage
In Proceedings of the twelfth ACM SIGPLAN workshop on Erlang (Erlang '13)
Collocated with ICFP '13; September 28, 2013; Boston, MA

EDUCATION   *Graduate Coursework*, 2013
Brown University, Providence, RI
One semester of coursework completed in distributed database development and formal verification.

Bachelor of Science, Information Technology, 2006 - 2009
Northeastern University, Boston, MA,
G.P.A. 3.75/4.0, Summa Cum Laude, Sigma Epsilon Rho Honor Society Member

Associate of Science, Computer Science, 2001 - 2006
Community College of Rhode Island, Warwick, RI

TALKS   *Building Applications with Distributed Erlang*
NDC London 2014; London, United Kingdom

Eventually Consistent Computations
ReactConf 2014; San Francisco, NV

Eventually Consistent Computation with CRDTs
RICON 2014; Las Vegas, NV

SyncFree: Large-Scale Computation Without Synchronization
RICON 2014; Las Vegas, NV

Eventual Consistency and Deterministic Dataflow Programming
LADIS Workshop '14; Cambridge, UK

"A Note On Distributed Computing" (1994)
Papers We Love 2014; Boston, MA

Derflow: Distributed Deterministic Dataflow Programming
ACM SIGPLAN Erlang Workshop 2014; Gothenburg, Sweden

Distributed deterministic dataflow programming for Erlang
Erlang User Conference 2014; Stockholm, Sweden

Convergent / Divergent
EmberConf 2014; Portland, OR

On The Composability of the Riak DT Map:
Expanding From Embedded To Multi-Key Structures
PaPEC 2014; Amsterdam, NL

Verified Vector Clocks: An Unexpected Journey
Erlang Factory 2014, San Francisco; San Francisco, CA

Verified Vector Clocks
RICON West 2013; San Francisco, CA

Riak PG: Distributed Process Groups on Dynamo-style Distributed Storage
ACM SIGPLAN Erlang Workshop 2013; Boston, MA

Choose Your Own Consistency
Toronto Erlang Factory Lite 2013; Toronto, ON

Bloom: A Language For Disorderly Distributed Computing
Wicked Good Ruby 2013; Boston, MA

What Even Is An Erlang?
Wicked Good Ruby 2013 Lightning Talk; Boston, MA

Functional Web Apps with Webmachine
LambdaJam 2013; Chicago, IL

Implementing a Distributed Process Registry on Riak Core
New York Erlang Factory Lite 2013; New York, NY

From Ruby to Erlang: An Unexpected Journey
Chicago Erlang Factory Lite 2013; Chicago, IL

An Introduction to Functional Reactive Programming
NodePDX 2013; Portland, OR

Distributed Data Structures in Coq
RICON East 2013; New York, NY

Building Ambitious Web Applications with Ember.JS
FITC 2012; Waltham, MA

AWARDS

Academic Excellence Award, Northeastern University, 2009
Awarded to students with the highest grade point average in their field of study.

BRASS Award, Berklee College of Music, 2008
Awarded to outstanding employees during the fiscal year.

Zero Hero Award, Conversent Communication, 2006
Awarded to employees for zero customer loss.

EXPERIENCE

Senior Software Engineer March 2012 - Present
Basho Technologies, Inc., Cambridge, MA
- Responsible for research on CRDTs under our partnership with SyncFree.
- Worked on Basho's replicated data center product, optimizing performance and reliability of multi-datacenter replication.
- Responsible for building out an application to manage usage of a half-petabyte object store using Ruby, JavaScript and D3.
- Developed closed-source web utilities for managing access to product trials.
- Implemented open-source client libraries for Riak CS in Ruby and Erlang.

Contributor and Maintainer July 2011 - Present
Rubygems.org (Community-hosted Ruby packages)
- Assisted in maintenance and development of the rubygems.org platform.

Software Engineer   November 2010 - March 2012
Swipely, Inc., Providence, RI
- Responsible for developing the Swipely platform, which is written in Rails 3 using RDS, MongoDB and Riak.
- Created a dynamic newsfeed based on purchasing history of customers, that prioritized scheduling based on purchase history and frequency.
- Introduced team to pair programming, test and behavior driven development.
- Contributed patches to Rails core, and various open source libraries.
- Took the lead on migrating our infrastructure from Rails 2.3.4 to Rails 3.0+.

Volunteer Systems Administrator   May 2010 - March 2012
Devio.us (Free OpenBSD Shell Provider)
- Assisted in all operational upgrades of Devio.us systems and user management.

Lead Software Developer   February 2010 - July 2010
Tapchamp, LLC.
- Developed Rails-based fantasy play prediction system, which included Facebook integration and mobile API for iPhone application.
- Deployed and managed all servers responsible for platform.

South End Community Health Center, Boston, MA   2010
- Working with a designer to build English and Spanish versions of their website.

Coevolution Interactive, Boston, MA   2009 - 2010
- Provided e-commerce and web development work for various clients.

Crunchy Granola Baby, LLC., Salem, MA   2008 - 2009
- Designed and implemented e-commerce solution for their online store.

Web Programmer and Systems Administrator   August 2008 - February 2009
Artists House Music, New Orleans, LA
- Designed and implemented custom solutions to support marketing initiatives.
- Provided systems support to staff, as well as general systems administration services.

Software Engineering Manager and Systems Engineer   April 2008 - October 2010
Berklee College of Music, Boston, MA
- Managed software development for the Berklee Media business division.
- Responsible for ensuring 24/7 uptime of all systems, rapid response to critical issues and delivering custom software products.
- Worked with the CTO and the Software Engineering Managers from other divisions to ensure applications are being developed following the proper standards.
- Configured and maintained hardware at two data center facilities as well as provisioned a disaster recovery site.

Software Developer and Systems Engineer   July 2006 - April 2008
Berklee College of Music, Boston, MA
- Developed for, and supported, custom AOLServer/OpenACS installations.
- Designed and supported web solutions using PHP, TCL, XML/XPATH, and Smarty.
- Provided 24/7 support for web services.

Senior Systems Engineer   January 2005 - July 2006

Conversent Communications, Lincoln, RI

- Designed and implemented high availability solutions for e-mail and web systems.
- Implemented a multi-server LDAP infrastructure.
- Worked in their data center to provide installation and support for customers.
- Designed and deployed an auto-provisioning system to integrate with their OSS.
- Designed database-driven systems for tracking data center customers and billing burstable bandwidth customers.

Systems Engineer   January 2000 - January 2005

Conversent Communications, Warwick, RI

- Worked in a small team to develop, maintain and deploy low-cost solutions for data products.
- Deployed Linux, Solaris, Windows and FreeBSD based systems.
- Designed database-driven web-based solutions for customer management in Perl, Java, and PHP.

Technical Support/Customer Service   August 1998 - June 2000

IDS World Network, East Greenwich, RI

- Provided technical support and customer service via telephone, e-mail and newsgroup for customers.

COMMUNITY   *Program Committees*

Participated in program committees.

- Member of the ACM DEBS 2015 Industry PC.
- Member of the ACM EuroSys 2014 shadow PC.

Events and User Groups

Assisted in the organization of several commerically and community supported events and user groups.

- Organized DowncityJS, a hackathon in Providence, RI.
- Assisted in organizing the RICON conference for the past three years.
- Functional Programmers; Providence, RI
- Ember.JS; Boston, MA

Think Distributed

Creator and host of the Think Distributed podcast, focusing on making distributed systems understandable.

- Hosted episodes featuring various researchers and practitioners.
- Held live panel discussions at Strange Loop 2013 and RICON 2013/2014.

SyncFree Consortium

Contributing member and industry partner of the SyncFree research project on large-scale syncronization-free computation funded by the European Union under the Seventh Framework Programme.

- Worked with Universite catholique de Louvain on building a programming model for working with eventual consistency.
- Assisted in the development and testing of the projects reference platform.
- Built out testing infrastructure for the reference platform for repeatable executions of test code and use case simulation.